

REMARKS

In the Office Action, the indicated allowability of claims 3-9, 11-32 and 45 was withdrawn. Claims 2-6, 9-14, 17-25, 30, 31, 33-37, 39, 41, 43, 45 and 46 were rejected, and claims 7, 8, 15, 16, 26-29 and 32 were objected to as being dependent upon a rejected base claim, but indicated as allowable if rewritten in proper independent form. Allowable dependent claims 7 and 8 have been placed into independent form by incorporating the language of the claims from which they depend. Accordingly, claims 7 and 8 should be a condition for allowance.

By this Reply and Amendment, claims 3, 4, 7, 8, 11, 12, 13, 14, 20, 30 and 37 have been amended, claims 10, 33-36, 43 and 45-46 have been canceled without prejudice, and claims 2-9, 11-32, 37 and 39-41 remain pending in the present application. All claim amendments are fully supported throughout the written description and figures of the specification.

Claims 2-6, 9-14, 17-25, 30, 31, 33-36, 37, 39, 41, 43, 45 and 46 were rejected under 35 USC 102(e) as anticipated by the Purkis et al. reference, US Patent No.: 6,567,013. Although Applicants disagree with aspects of the rejection, various amendments have been made to the claims to facilitate allowance of the present application.

The Purkis et al. reference discloses a well control system utilizing digital hydraulics that rely on a group of hydraulic lines to provide hydraulic codes as opposed to utilizing individual lines to control a plurality of well tools as in the present application. In Purkis et al., well tools are controlled by corresponding control devices, e.g. control device 68, 74, 76, 78, 158, 160, 162, 164, 166, 168 and 170, which are selectively actuated by application of a hydraulic code or address via a plurality of hydraulic lines. According to the disclosure, "these addresses are similar to the type of notation used in digital electronics and sometimes referred to as binary code. In binary code, 1's and 0's are used to refer to the presence or absence of voltage, a state of charge, etc. on elements of an electronic device. In the present description of the hydraulic schematic, the 1's and 0's are used to indicate the presence or absence of a predetermined pressure level on a hydraulic line." (See column 5, lines 29-36). In distinguishing over the prior

art use of pressure pulses in a single hydraulic line, the Purkis et al. reference states that its method of transmitting a code or address via a group of hydraulic lines is substantially different than applying a series of pressure pulses "on a hydraulic line." The reference further distinguishes the prior art by stating that in the prior art case, "pressure on a hydraulic line is intentionally increased and decreased repeatedly, and the code or address is not generated on multiple hydraulic lines, but is instead generated on a single hydraulic line." (See column 4, lines 54-62). In the embodiment illustrated and described with reference to Figure 4 of the Purkis et al. reference, four hydraulic lines A, B, C, D are used to provide four digit hydraulic codes corresponding to specific actuators. (See column 8, line 50, through column 9, line 20). The Purkis et al. reference does not disclose or suggest the use of individual control lines to exercise control over a plurality of well tools via the use of unique pressure levels, i.e. pressure ranges, provided through an individual control line, as recited in the currently pending claims. Similarly, the Purkis et al. reference fails to disclose or suggest the use of a plurality of distinct, unique pressure levels associated with corresponding wellbore tools/decoders to initiate actuation of specific wellbore tools.

By way of specific example, the Purkis et al. reference fails to disclose or suggest numerous elements of the currently pending claims. Examples of elements not disclosed in the cited reference include the following:

Claim 4: "at least three hydraulically controlled well tool devices are independently controllable *via application of unique pressure ranges through individual control lines* of the pair of hydraulic control lines... each decoder comprising a main valve that remains open through a predetermined unique pressure range" (emphasis added);

Claim 12: "independently controlling the at least three corresponding main valves by *applying pressure at a plurality of unique pressure ranges via an individual hydraulic line* of the pair of hydraulic lines, *the number of corresponding main valves independently controlled being greater than the number of unique pressure ranges*" (emphasis added);

Claim 20: "downhole well tool components may be individually controlled by application of unique pressure levels, wherein at least one of the fluid control lines acts individually to control actuation of more than one downhole well tool component of the plurality of downhole well tool components";

Claim 30: "means for controlling independent actuation of each downhole tool by pressurizing an individual fluid pilot line to one of a plurality of unique predetermined pressure ranges"; and

Claim 37: "a crossover disposed between two decoders of the plurality of decoders, wherein the crossover changes the first control line from a pilot line to a command line for at least one subsequent well tool component."

Claims 2-3, 5-9, 11, 13-19, 21-29, 31-32 and 39-41 ultimately depend from one of the independent claims discussed above. Accordingly, these dependent claims are patentable over the cited reference for the reasons stated above with respect to the corresponding independent claims, and for the unique subject matter recited in each of these dependent claims.

In view of the foregoing remarks, the pending claims are believed patentable over the cited references. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. A. Van Someren', written over a horizontal line.

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Date: March 1, 2006

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